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(54) Title: RESTORATION OF METHYLATION STATES IN CELLS

(57) Abstract: A method for altering a characteristic or state of a cell, or reprogramming a cell, comprising treating a first cell type with an agent capable of altering a characteristic or state in a cell or reprogramming a cell, and determining the degree of alteration of the treated cell by measuring the methylation signature within the genome of the treated cell, wherein a given methylation signature is indicative of an altered characteristic or state of the treated cell. The preferred substance for treating the first cell is a cellular extract, lysate or component from a second cell type, the second cell type having a desired characteristic, or being the desired cell type the first cell type is to be reprogrammed to. The examples show the methylation state of a fibroblast cell being reprogrammed to that of an immune system T cell.

WO 2004/048555 A1

